REMARKS

Applicants thank the Examiners for the cooperation in reviewing this matter. The October 1, 2003, Office Action largely repeats the rejections of the prior Action (March 3, 2003), without addressing Applicants' remarks in the July 21, 2003, reply to the prior Action related to the patentability of the present claims that includes, but is not limited to the *interactive populating* of a searchable database *by a plurality of observers*. Primary Examiner Alam informed Applicants' attorney that the comments presented herein would be carefully considered by the Examiner.

A. The cited art

Dunworth discloses a software interface through which users may browse through access information such as available goods and services in a particular geographic area using a geographical map. The geographic area is selectable by the users from a hierarchical geographic database, and the information associated with the selected area is retrieved[3].

Willis discloses an information search and retrieval process using geographical coordinates. An index of coordinates is built for a plurality of text based references, resources or sites, each having a set of said coordinates. A user inquiry is accepted containing a text reference. The text reference specified is converted to a set of coordinates, and a search is thereafter conducted against the index of coordinates to retrieve information[4].

B. Final Rejection of claims 1-9 and 11-24 under 35 U.S.C. §103(a) as being unpatentable over Dunworth

In order to better understand the differences between the cited reference and Applicants' invention, it is pointed out that Dunworth teaches a data retrieval system by which end-users

[3] Dunworth, Abstract

[4] Willis, Abstract

acquire information about resources at a location (*e.g.*, names of shops, items for sale, eating establishments) from a database. Dunworth's system is essentially a "yellow-pages" tool with a geographic query component. The data are stored in a standard database with hierarchical geographic keys (*e.g.*, country/state/county/city)[5]. Geographic access is through the predetermined geographic terms[6] or through a series of image maps which are HTML images pointing to URLs describing the resources[7].

Claim 1 recites:

1. *A computer-implemented method for aggregating and expressing geographically-linked data provided by a plurality of observers, comprising the steps of*

a) providing an interactive map capable of receiving geographical location and associated data over the Internet from a plurality of observers;

b) receiving a first geographical location and first associated data from a first observer;

c) storing said geographical location and said first associated data in a database as data records according to said geographical location;

d) receiving a second location and second associated data from a second observer;

e) repeating steps c) and d) with said second location and second associated data;

f) receiving a spatial query from a user specifying at least one location on said interactive map; and

g) providing the data records associated with the user-specified at least one location.

[5] Dunworth, Col. 8, line 49 – Col. 9, line 4

[6] Dunworth, c3:49-53

[7] Dunworth, col. 8, ll. 49-58

The Final Action states that the teachings of Dunworth obviate all the limitations of Claim 1, and points to column 6, lines 2-3 and 24-26, column 2, lines 45-47 and column 10, lines 44-58 for support. The Action asserts that Dunworth's method for accessing and expressing data from a plurality of distributed servers based on selections made from a hierarchical geographical database is equivalent to teaching one how to interactively populate a geographically-linked observation database by a plurality of end-users. There are clearly distinct conceptual differences between Dunworth and Applicants' claimed invention. Fore example, in Dunworth, an end-user scrolls through a pre-selected hierarchy of geographical locations in order *to access or retrieve* the information in the database, the presently claimed invention allows an observer to *create* the database previously non-existing geographical location data points and *populate* the database with such location data points and associated data (*e.g.*, bird sightings), or update previously created location data points such that they may be searched later.

It is respectfully submitted that the locations referenced within Dunworth do not teach what the Action purports. Dunworth's "distributed servers" are used in creating a search based on hierarchical geographical options, not for allowing a "plurality of observers" to create new and update existing database entries based on self-determined geographical coordinates or regions. For example, Dunworth's distributed servers are exemplified by a plurality of routing hubs 100 that may comprise domain name system (DNS) servers executing preprogrammed applications[8]. It is clear from of Applicant's specification that "observers" are end users who enter geographically-referenced observation data[9].

In Dunworth's system, end-users interact with his software interface through his "distributed servers" (*i.e.*, routing hubs 100) to access information[10]. In his preferred embodiment, the web organizer server 114 provides subscribing users with a geographically

[8] Dunworth, col. 3, ll. 2-5; col. 4, 1-10; col. 6, ll. 4-11

[9] Specification, page 7, ll. 10-12

[10] Dunworth, col. 6, ll. 58-61

organized perspective of the information available[11]. This user-accessible information is located in a "local content" database 230 and is retrieved by translating a user's request for topical (or sub-topical) information to a local content search engine 520[12] that searches the local content database[13] and returns the desired information, supplemented by 'yellow pages' information from the YPLD database 328[14]. Figure 16 presents an example of information within a local content database, which is arranged hierarchically in folders [15]. However, Dunworth does not appear to allow observers to interactively populate the local content database 230 and YPLDS database 328. This is in sharp contrast to the Applicants' present invention, as recited in Claim 1, wherein the data records received from the plurality of observers are the observation data being stored and retrieved from the database.

The Action further states (Page 3, 4b) that *receiving a first location and first associated data from a first observer* is equivalent to presenting the end-user with a choice from among several available topical information selections. Applicants respectfully disagree. The direction of geographically-associated data flow as recited in claim 1, for example, appear to be completely opposite from that described in the section of Dunworth cited for support of this assertion[16]. In the former, location and associated data is flowing *from* the observer to a database populating mechanism, while in the latter options are being presented *to* the end user.

The Action further suggests (Page 3, 4c) that Dunworth teaches a data entry system to interactively create and store records, which appears to be inaccurate. As stated above, Dunworth appears to be completely devoid of teaching how to populate the local content database 230 and

[11] Dunworth, col. 7, ll. 5-10

[12] Dunworth, col. 14, ll. 28-45

[13] Dunworth, col. 15, ll. 1-3

[14] Dunworth, col. 15, ll. 25-33

[15] Dunworth, col. 23, ll. 13-39

[16] Dunworth, col. 2, ll. 45-47

YPLDS database 328. Nor is there support in Column 13, lines 54-59, as the Action states, for interactively populating Dunworth's other databases. Alternatively and importantly, the presently claimed invention also allows any user, over the Internet, to create a geo-referenced location within the observation database with a very high degree of spatial resolution.

Dunworth's system is concerned with retrieval of information (*e.g.*, goods and services) available in a particular geographic area. The Action appears to concede Dunworth's failure to teach the geographic or resource database-populating features of Claim 1 (Office Action, page 4, 4g), but then, without basis, asserts that Dunworth's organizer, which comprises a search engine for searching a database of predetermined geographic areas, and/or Dunworth's image map query function for returning predetermined caricatures or icons associated with the predetermined areas, are sufficient to enable an artisan to interactively populate a database geographically-referenced observation data. Applicants do not understand how the operation of search engines can be asserted as teaching or suggesting interactive database populating.

For at least the reasons provided above, Applicants respectfully submit that Claim 1 is patentable over the cited reference, and request reconsideration and withdrawal of the rejection.

With regard to claims 2-9 and 11-16, each of these claims includes all of the limitations of present claim 1, and even further patentably define the present invention. They each include the patentable limitations, as described above, not taught by Dunworth, relating to interactive population of a geographically-linked database and querying of said database by end users. Thus, Applicants respectfully submit that dependent claims 2-9 and 11-16 are similarly patentable over the cited references.

Independent claims 17, 21, 22 and 24 each include limitations that encompass this core concept of interactive population of a *spatially-linked* (geographic) database by a plurality of observers, and thus Applicants submit are similarly patentable over the cited art for the reasons provided above.

As described in Applicants' specification[17] and illustrated in the examples of Figures 6-9, the presently claimed invention employs an interactive map that operates in several possible ways. A position of interest is indicated by either pointing and clicking a mouse at a specific position or, alternatively, a region of interest may be defined by multiple mouse clicks at the positions desired to be vertices of a polygon. Events of interest associated with the identified position or region may then be collected from the database.

Neither Dunworth applied in the rejection of all the claims, nor Willis utilized in the rejection of Claim 10, teach systems operating in this manner. Dunworth's system does have the capability of graphically displaying for a user an image of a geographic area, but the only selections that may be made are from predetermined geographic areas[18]. A user of Dunworth's system must ascend or descend through the predetermined hierarchy of geographic areas. The selection of a *point of interest* in Dunworth's system is, therefore, more limited than the presently claimed invention, wherein the reference point is converted into geographic coordinates relative to the at least one known reference point.

B. Final Rejection of claim 10 under 35 U.S.C. §103(a) as unpatentable over Dunworth in view of Willis

The Action combines Willis with Dunworth in rejecting Claim 10 as obvious. A user of Willis' system is required to enter the geographic coordinates of any points of interest not recognized in its Geographical Index[19]. This is in contrast to the point-and-click interactive map

[17] Specification, page 13, ll. 8-22

[18] Dunworth, col. 8, line 49, through col. 9, line 4

[19] Willis, col. 5, ll. 10-15

employed by the Applicants' claim 10, which calculates the geographical coordinates from a known reference.

Dunworth's system requires reformatting of spatial queries into a hierarchical query format to access the data. Applicants' "*geographically-linked data records*" are stored in a geo-spatially structured database allowing truly spatial queries of data in the database without having to reformat the spatial queries. Although Wills specifically refers to latitude and longitude indexing, it is merely as a key into a database of similarly predetermined geographic terms. Data storage and querying in Willis' system is not performed on an interactive map. Rather, a user of Willis' system enters a textual query, perhaps modified by a proximity modifier.[20] Willis uses latitude and longitude to satisfy such proximity query modifiers. Thus, like Dunworth, Wills either alone or in combination with Dunworth, does not obviate the patentability of claim 10. This claim should also, therefore, be found allowable.

It is respectfully requested that the above remarks be considered and entered in this application since they place this Application in condition for allowance or, in the alternative, in better form for appeal. Thus, it is respectfully submitted that, for at least the reasons presented above, claims 1-24 are patentable over the cited references and should be found to be allowable, and a notification to this effect is earnestly solicited.

A telephone interview with Applicants' attorney, Jacob Erlich (617.854.4000) is requested of the Primary Examiner upon review of this reply if any outstanding questions still remain.

Respectfully submitted,
STEVEN T. KELLING, *et al.*,
Applicants

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By: 
Jacob N. Erlich
Reg. No. 24,338
Attorney for Applicants

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[20] Willis, col. 6, ll. 35-48